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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/209,982	12/09/1998	MICHAEL KAPLINSKY	08305/050001	6236

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EXAMINER

VILLECCO, JOHN M

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/209,982	Applicant(s) KAPLINSKY, MICHAEL	
	Examiner John M. Villecco	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,11-13,15-18 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,11-13,15-18 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 31, 2005 has been entered.

Response to Amendment

2. Applicant has amended claim 1 to include the limitation of "obtaining expected signals for an image-rendering device of each of a plurality of known reference colors". However, this amendment does not appear to place the case into condition for allowance. More specifically, it appears that the applicant is trying to distinguish his invention from the prior art such that the expected signals used in the determining the color correction matrix are derived from the properties of the image-rendering device. Kim, on the other hand, teaches that his color correction apparatus is used in more closely approximating actual colors according to the CIE-XYZ color coordinate system. See column 12, lines 35-68. Furthermore, Kim teaches that his color correction is performed in order to have a more accurate reproduction of the colors of an image, such as in a printer. See column 7, lines 35-62. Additionally, Kim teaches that a colorimeter is used to determine the exact color of each color in the chromatic test chart (col. 13, lines 6-8). Thus, in order to have a more faithful reproduction of color in the printer (9)

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disclosed in Kim, the colorimeter measures the actual colors of the test chart and uses them to generate the color correction matrix. Therefore, the colors determined using the colorimeter are interpreted by the examiner to be the expected signals of an image-rendering device (printer).

3. As for claim 6, applicant has amended the claim to include the limitation of “an image-rendering device”. Besides bringing up some 112, 1st paragraph issues, this amendment does not specifically overcome the Kim reference since Kim does disclose a printer (9) used in rendering and reproducing the images.

4. With regard to claim 13, applicant has amended the claim to include the limitation of “obtaining signals expected to be seen for each of a plurality of known reference colors”.

However, as mentioned previously, the colorimeter is used to determine signals expected to be seen for each of the plurality of known reference colors.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 6-9, 11, 12, 17, 18, and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. More specifically, claim 6 recites the limitation of the image sensor apparatus including “an image-rendering device”. However, there is no disclosure within the

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specification of the image sensor apparatus also including an image-rendering device. Applicant does disclose that the color correction matrix is adjusted according to an image-rendering device, but does not specifically disclose that the image sensor apparatus also includes an image-rendering device.

7. Claims 7-9, 11, 12, 17, 18, and 22 are rejected based upon their dependency to claim 6.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. **Claims 1, 4-8, 12, 23, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim (U.S. Patent No. 6,320,668).**

10. Regarding **claim 1**, Kim discloses a color correction apparatus and method in an imaging system. Kim discloses obtaining reference outputs from an image sensor using a color image array (20). The reference outputs are derived from a chromaticity chart shown as reference number 12 in Figure 3. The chromaticity chart includes the primary colors (red, green, and blue) as well as 21 additional colors for a total of 24 colors. The system receives an input from a colorimeter and compares it to the input reference data. The system then operates to reduce an error between the colorimetric scanning data and the data obtained by scanning the chromatic test pattern (12) by computing a color coefficient correction matrix. See column 13, lines 40-64

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and column 21, lines 18-50. In this manner the system is optimized for each of the input colors and color-corrected image is obtained. The applicant's claim is directed toward performing color correction also including gray scale references as colors. Therefore, as shown in Figure 3, the last line of the chromatic portion (12) of the test chart (10) is interpreted to be a gray scale line (col. 12, lines 25-27) used in the color correction. Kim, on the other hand, teaches that his color correction apparatus is used in more closely approximating actual colors according to the CIE-XYZ color coordinate system. See column 12, lines 35-68. Furthermore, Kim teaches that his color correction is performed in order to have a more accurate reproduction of the colors of an image, such as in a printer. See column 7, lines 35-62. Additionally, Kim teaches that a colorimeter is used to determine the exact color of each color in the chromatic test chart (col. 13, lines 6-8). Thus, in order to have a more faithful reproduction of color in the printer (9) disclosed in Kim, the colorimeter measures the actual colors of the test chart and uses them to generate the color correction matrix. Therefore, the colors determined using the colorimeter are interpreted by the examiner to be the expected signals of an image-rendering device (printer).

11. Regarding **claim 4**, Kim discloses using 24 colors in the color chart (12). Thus, the system uses at least 7 colors. See column 12, lines 15-30.

12. As for **claim 5**, Kim discloses using 24 colors in the color chart. See column 12, lines 15-30.

13. With regard to **claim 6**, Kim discloses a color correction apparatus and method in an imaging system. Kim discloses obtaining reference outputs from an image sensor using a color image array (20). A spectral optical system is used which includes a color resolution filter (col. 7, lines 45). The system outputs spectral information regarding the RGB colors (col. 13, lines 46

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and 47). This amounts to an interpolation to determine all color components that impinge on the pixel. The reference outputs are derived from a chromaticity chart shown as reference number 12 in Figure 3. The chromaticity chart includes the primary colors (red, green, and blue) as well as 21 additional colors for a total of 24 colors. The system receives an input from a colorimeter and compares it to the input reference data. The system then operates to reduce an error between the colorimetric scanning data and the data obtained by scanning the chromatic test pattern (12) by computing a color coefficient correction matrix. See column 13, lines 40-64 and column 21, lines 18-50. The color correction-processing unit acts as the image interpolator since it performs the color correction. In this manner the system is optimized for each of the input colors and color-corrected image is obtained. The applicant's claim is directed toward performing color correction also including gray scale references as colors. Therefore, as shown in Figure 3, the last line of the chromatic portion (12) of the test chart (10) is interpreted to be a gray scale line (col. 12, lines 25-27) used in the color correction. Additionally, Kim teaches a printer (9) which is interpreted to be the image-rendering device.

14. Regarding **claim 7**, Kim discloses that the color chart (12) includes red, green, blue, white, and 20 additional colors. See column 12, lines 15-30.

15. As for **claim 8**, Kim discloses using 24 colors in the color chart. See column 12, lines 15-30.

16. Regarding **claim 12**, Kim discloses using each color of the color chart (12) to produce a color correction matrix. See column 11, line 65 to column 12, line 41.

17. With regard to **claim 23** Kim discloses that the detected signals are obtained for each of R, G, and B components. See column 14, lines 1-45.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. **Claims 3, 9, 11, 13, 15-18, 21, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (U.S. Patent No. 6,320,668) in view of Yamaguchi (Japanese Publ. No. 02-074367 A).**

20. Regarding ***claim 15***, as mentioned above in the discussion of claim 1, Kim discloses all of the limitations of the parent claim. However, Kim fails to disclose weighting certain colors more than others. Yamaguchi, on the other hand, discloses that it is well known in the art to weigh some colors more than others when constructing a color correction matrix. See the abstract. By choosing certain colors to be weighted more than others, the system is placing more emphasis on specific colors. By placing more emphasis on certain colors such as flesh tones, the colors which are important and to which the eyes are more sensitive will be emphasized, thus producing a higher quality image. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to emphasize the error measurements of specific colors in Kim so that colors which are important to an image are given more weight, thereby forming a better image.

21. As for ***claim 3***, as shown in column 13, lines 40-62, Kim discloses calculating a minimum value for each of the error values of the red green and blue components of the input

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colors. In this case the reference is denoted as P_{Ri} , P_{Gi} , and P_{Bi} . The input colorimetric data is denoted as \underline{P}_{Ri} , \underline{P}_{Gi} , and \underline{P}_{Bi} . The process for calculating a minimum value for each of the error values of the red, green, and blue components would inherently be the same as the process for computing the error between the grey level corrected signals and the colorimetric scanning data as described on column 21, lines 1-65.

22. As for *claim 16*, as mentioned above in the discussion of claim 15, Yamaguchi discloses weighing flesh tones more than others. See the abstract.

23. Regarding *claim 21*, Yamaguchi discloses weighing certain colors more than others (i.e. flesh tones). Additionally, Yamaguchi teaches that a weighing factor is applied to specific colors within the color correction matrix in order to weigh flesh tones more heavily. See the abstract. The fact that flesh tones are weighed more than other less important colors, shows that Kim is concerned with the impact of the flesh tones on the image quality.

24. With regard to *claim 9*, as mentioned above in the discussion of claim 6, Kim discloses all of the limitations of the parent claim. However, Kim fails to disclose weighting certain colors more than others. Yamaguchi, on the other hand, discloses that it is well known in the art to weigh some colors more than others when constructing a color correction matrix. See the abstract. By choosing certain colors to be weighted more than others, the system is placing more emphasis on specific colors. By placing more emphasis on certain colors such as flesh tones, the colors which are important and to which the eyes are more sensitive will be emphasized, thus producing a higher quality image. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to emphasize the error measurements of specific

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colors in Kim so that colors which are important to an image are given more weight, thereby forming a better image.

25. With regard to **claim 11**, as mentioned above in the rejection of claim 6, it is obvious to weight colors which are important (and to which the eye is more sensitive to), higher than other colors, so that a higher quality image is formed. It is well known in the art that red, green, and blue are very important colors, and thus it would have been obvious to one of ordinary skill in the art to weigh these colors more than the dull colors.

26. As for **claim 17**, the equations represented by the color correction processing unit would inherently be solved simultaneously in Kim.

27. Regarding **claim 22**, Yamaguchi discloses weighing certain colors more than others (i.e. flesh tones). Additionally, Yamaguchi teaches that a weighing factor is applied to specific colors within the color correction matrix in order to weigh flesh tones more heavily. See the abstract. The fact that flesh tones are weighed more than other less important colors, shows that Kim is concerned with the impact of the flesh tones on the image quality.

28. Regarding **claim 18**, as mentioned above in the discussion of claim 6, Kim discloses all of the limitations of the parent claim. However, Kim fails to disclose weighting certain colors more than others. Yamaguchi, on the other hand, discloses that it is well known in the art to weigh some colors more than others when constructing a color correction matrix. See the abstract. By choosing certain colors to be weighted more than others, the system is placing more emphasis on specific colors. By placing more emphasis on certain colors such as flesh tones, the colors which are important and to which the eyes are more sensitive will be emphasized, thus producing a higher quality image. Therefore, it would have been obvious to one of ordinary skill

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in the art at the time the invention was made to emphasize the error measurements of specific colors in Kim so that colors which are important to an image are given more weight, thereby forming a better image.

29. As for *claim 13*, Kim discloses a color correction apparatus and method in an imaging system. Kim discloses obtaining reference outputs from an image sensor using a color image array (20). A spectral optical system is used which includes a color resolution filter (col. 7, lines 45). Inherently a color filter operates to supply only light of a certain wavelength to the pixel which it covers. The system outputs spectral information regarding the RGB colors (col. 13, lines 46 and 47). The reference outputs are derived from a chromaticity chart shown as reference number 12 in Figure 3. The chromaticity chart includes the primary colors (red, green, and blue) as well as 21 additional colors for a total of 24 colors. The system receives an input from a colorimeter and compares it to the input reference data. The system then operates to reduce an error between the colorimetric scanning data and the data obtained by scanning the chromatic test pattern (12) by computing a color coefficient correction matrix. See column 13, lines 40-64 and column 21, lines 18-50. In this manner the system is optimized for each of the input colors and color-corrected image is obtained. The applicant's claim is directed toward performing color correction also including gray scale references as colors. Therefore, as shown in Figure 3, the last line of the chromatic portion (12) of the test chart (10) is interpreted to be a gray scale line (col. 12, lines 25-27) used in the color correction. Furthermore, as mentioned previously, the colorimeter is used to determine signals expected to be seen for each of the plurality of known reference colors.

However, Kim fails to disclose weighting certain colors more than others. Yamaguchi, on the other hand, discloses that it is well known in the art to weigh some colors more than others when constructing a color correction matrix. See the abstract. By choosing certain colors to be weighted more than others, the system is placing more emphasis on specific colors. By placing more emphasis on certain colors such as flesh tones, the colors which are important and to which the eyes are more sensitive will be emphasized, thus producing a higher quality image. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to emphasize the error measurements of specific colors in Kim so that colors which are important to an image are given more weight, thereby forming a better image.

30. With regard to *claim 24*, Kim discloses that the detected signals are obtained for each of R, G, and B components. See column 14, lines 1-45.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (571) 272-7319. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'John M. Villecco', with a long horizontal flourish extending to the right.

John M. Villecco
December 9, 2005